REMARKS

Claims 1-19 are now pending in this application. Claims 1 and 2 are rejected. New claims 3-19 are added. Claim 1 is amended herein to clarify the invention.

CLAIM REJECTIONS UNDER 35 U.S.C. § 102(b)

Claims 1 and 2 are rejected under 35 U.S.C. § 102(b) as being anticipated by either the Hideo or Mikiaki references. Applicant herein respectfully traverses these rejections. "Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, *arranged as in the claim*." ***Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.***, 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added). It is respectfully submitted that the cited reference is deficient with regard to the following.

The Examiner states in the Office Action that determination of the patentability of a product-by-process claim turns on the whether the product produced is distinguishable of the prior art product. However, it is well established that product claims may include process steps to wholly or partially define the claimed product. See In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA1972), and the cases cited therein. To the extent these process limitations

distinguish the *product* over the prior art, they must be given the same consideration as traditional product characteristics. Furthermore, "anticipation of invention set forth in product claims cannot be predicated on mere conjecture respecting the characteristics of products that might result from practice of processes disclosed in the references." *W.L. Gore Assoc., Inc. v. Garlock, Inc.*, 220 USPQ 303, 314 (Fed. Cir. 1983). And finally, in order to anticipate, the prior art reference must be enabling, i.e., it must contain within its four corners a sufficient description to enable one to practice the invention of the rejected claim without undue experimentation or inventive skills. *Akzo N.V. v. U.S. Intern. Trade Com'n*, 1 USPQ2d 1241, 1245 (Fed. Cir 1986). It is respectfully submitted that the process steps set forth in the pending claim produce a product which is structurally different from the prior art products and that the prior art does not enable the production of such a product

Claim 1 recites that the porous substrate is first impregnated with active material and is then press worked to produce a rail shaped protrusion. The protrusion is then acted on by applying ultrasonic vibrations to remove the active material by applying ultrasonic vibration thus turning the protrusion into a core substrate exposed section. After the active material is removed from the rail shaped protrusion, the protrusion is then flattened to the same level as the previously pressed portion of the substrate. Finally, the substrate exposed section

is then cut in a straight line to proved an electrode with a substantially true straight edge.

The Mikiaki reference is discussed in the background section of the specification of the present application and referred to as Japanese Laid-Open Patent Publication No. 2000-77054. See specification pages 2-5 and Figs. 7A to 7E. The Mikiaki reference discloses two methods. One method presses inverted rails into a substrate which is subsequently impregnated with active material. The inverted rails are then acted on by a brush which removes active material from the pressed inverted rail areas. Finally, the entire electrode is flattened to the level of the rails and the exposed brushed rails are cut. The present specification discusses five structural problems resulting form this method which are overcome by the present invention.

The second method of the Mikiaki reference uses a ultrasonic vibrations to remove active material. The substrate which is first impregnated with the active material and then entirely compressed. The ultrasonic vibrations are then used to sufficiently remove the active material from the compressed electrode collector area but the metal foam structure of the collector area is weakened due to the force required to remove the active material from the compressed metal foam. The weakening cause by removing the active material from the compressed inverted rail area is avoided by the process presented in the now pending claims by using

ultrasonic vibration to remove the active material from the rail shaped protrusion prior to compression. Claim 12 specifically requires that the strength of the compressed core substrate exposed section produced substantially equal the strength of the pressed portions.

The electrode plate of claims 1 and 12 is formed by a method that overcomes each of the structural problems posed by the Mikiaki reference. According to the disclosure, the process of first impregnating and then compressing areas other than the electrode collector rails, followed by the removal of the active compound from the uncompressed collector rails using ultrasonic vibration, results in a more even distribution of the active material in the non-rail area, greater removal of the active material from the rail area, and a stronger compressed rail than in the Mikiaki reference. Furthermore, the warp exhibited by the rails produce by the Mikiaki reference's disclosures, which is illustrated in Fig. 7E is avoided. Thus, the electrode produced is structurally different from Mikiaki reference.

Attached hereto is a copy of the Hideo reference wherein a portion is underlined. This portion translates as follows:

> Fig. 2(A) schematically shows the expandable metal filled with the active material. Fig. 3(A) is a sectional view of Fig. 2(A). Then, a linear projected part 4 (shown in Fig. 2(B)) is left behind in the expandable metal, and the remaining part 1 is molded by pressing

in the X direction, while the active material in the projected part 4 is removed by brushing.

As stated on page 3, line 19 to page 4, line 1 of the present specification, the method of removal of the active material using a brush and air blower is imperfect, resulting in an increased likelihood of unsatisfactory welding occurring during attachment of the current collector formed from the projected part 4, due to residue of the active material left in the projected part by the brush operation.

The method of applying the ultrasonic vibration to the uncompressed rail shaped projection of claims 1 and 12 more thoroughly removes the active material from the rail projection. The effect of this method is further defined by the limitation in claim 12 requiring the residual active material to be 4% or less. As noted in the specification, conventional methods such as brushing leave 10% or more.

Still further, the brushing method does not provide the substantially true straight boundaries produced by the claimed application of ultrasonic vibration to uncompressed impregnated rail protrusions followed by their compression. The method of the independent claims provide for superior straightness. The straightness provided is further limited in claims 3 and 19. The specification notes that prior methods, i.e., those using brushing as in the Miliali reference, produce deviations of up to 0.8 mm.

In summary, the claimed process results in a combination of more even distribution of the active material in the non-rail area, greater removal of the active material from the rail area, and a stronger compressed rail not provided in the product of the cited references.

In view of the above, it is respectfully submitted that claims 1-19 particularly describe and distinctly claim a product not produced by the methods enabled by the cited references. As noted above, anticipation requires that the reference be enabling. Therefore, reconsideration of the rejections of claims 1 and 2 and allowance of all pending claims are respectfully requested.

If there are any the fees due the USPTO is hereby authorized to charge any fees to Deposit Account No. 10-1250.

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In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited.

Respectfully submitted,
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enc: Attached marked copy of Hideo reference.